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Original article

The care provided by general practitioners for persistent depression

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Abstract

Purpose. – To examine the care provided by general practitioners (GPs) for persistent depressive illness and its relationship to patient, illness and consultation characteristics.

Subjects and method. – Using the Composite International Diagnostic Interview-Primary Health Care Version (CIDI-PHC) a sample of 264 patients with ICD-10 depression was identified among consecutive primary care patients in the Netherlands. At 1-year follow-up 78 of these patients (30%) still fulfilled the criteria of an ICD-10 depression and were considered persistent cases. At baseline and follow-up the GPs specified their diagnosis and treatment. The extent of recognition as a mental health problem, accuracy of diagnosis as a depression and treatment in accordance with clinical guidelines for depression was examined. In addition it was examined whether these steps in adequate GP care for persistent depression were related to patient, illness and consultation characteristics.

Results. – Twenty percent of the persistent depression cases were not recognized at baseline or during follow-up, 28% was recognized but not accurately diagnosed, 17% was accurately diagnosed, but did not receive adequate treatment and 35% was treated adequately. Recognition was associated with psychological reason for encounter; accurate diagnosis with absence of activity limitation days; and adequate treatment with severity of depression and higher educational level.

Conclusion. – Non-recognition, misdiagnosis and inadequate treatment are not limited to patients with a relatively mild and brief depression but are also prominent in patients with a persistent depression, who consulted their GP 8.2 times on average during the year their depression persisted.

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Keywords: Persistent depression; Process of care; Primary care

1. Introduction

General practitioners (GPs) play a vital role in managing depressive disorders [6]. The quality of this care has been frequently questioned. GPs have been shown to recognize only 40–50% of their patients with a current depressive disorder [18,16,12]. And if recognized, only a few of depressed patients receive antidepressant treatment of proven effectiveness [12,15,8,9,11,13].

Recent reports, however, qualify the clinical significance of non-recognition and inadequate treatment of depression in

primary care. Non-recognized patients prove to be less severely ill and less functionally impaired [16,10]. Moreover, other studies have shown that such milder cases of depression in primary care have a better prognosis [3]. Therefore, the above-mentioned alarming extent of non-recognition and inadequate treatment for depression in primary care in general, may in fact be restricted to milder cases with a favorable course where non-intervention is justifiable, and may not be seen in patients with a poor prognosis.

The present study examines the extent of non-recognition and inadequate treatment in primary care patients whose depression lasts 1-year or more. The adequacy of the treatment received is evaluated against current clinical guidelines, i.e. prescribing either an antidepressant of adequate dos-

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age and duration or referral to the mental health service. In addition it is examined whether the provision of adequate treatment is related to patient, illness and consultation characteristics including age, gender, years of education, comorbidity of a chronic disease, prior episode of depression, depression severity, severity of comorbid anxiety, functional disability, activity limitation days, reason for encounter and number of consultations.

2. Materials and methods

2.1. Physicians, patients and data collection

The study was conducted in 17 practices of GPs in the Netherlands who participated in a study on the effect of a post-graduate training on process of care and patient outcomes [12,13,17]. Both pre and post training, patients aged 18–65 years, who attended their GP at randomly selected days were asked to participate in the study. They answered the General Health Questionnaire-12 (GHQ-12), a screening questionnaire for mental health problems [5] while waiting to see their doctor. Based on the results of screening, a stratified random sample—oversampling patients with a high probability for the presence of mental health problems—was invited for a psychiatric interview within 2 weeks of the visit to the GP: 10% of the patients with low scores (0, 1), 33% with medium scores (2–4), and 100% with high scores (five or higher). The interview consisted of the Composite International Diagnostic Interview—Primary Health Care Version (CIDI-PHC) [22,19], carried out by a trained research assistant. It yielded ICD-10 diagnoses and provided information on the time of onset and severity of the disorders. After complete description of the study to the patients, written informed consent was obtained. All patients with a current depressive episode according to ICD-10 criteria on the CIDI-PHC, were asked to participate in a 1-year follow-up, which was identical to the baseline interview. The patients who again fulfilled the criteria of an ICD-10 depressive episode at the 1-year follow-up were considered ‘persistent cases’ and were included in the present study. The course of their depression during the follow-up period was assessed as part of the follow-up interview [3].

2.2. Process of care

Process of care was assessed at baseline and at 1-year follow-up. At baseline the GPs documented the care process on a Physician Encounter Form (PEF). On the PEF they recorded (a) the presence of any psychopathology; (b) their diagnosis of the psychopathology; and (c) any treatment provided. To record the presence and severity of a mental health problem, the GP used a 5-point scale: 0 = completely normal, not disturbed; 1 = some symptoms, but not amounting to illness (subclinical disturbance); 2 = mild case, just clinically significant emotional distress; 3 = moderate case;

4 = severe case, severe emotional distress. A rating of two or more was considered to indicate that the patient had a mental health problem according to the GP. For these patients the GP was asked to specify the diagnosis and treatment. 1-year after the baseline assessment the GP was interviewed and the medical records were checked about the process of care during the follow-up period, including recognition as a mental health problem, diagnosis and treatment. The adequacy of any dosage and duration of antidepressant medication was assessed for patients who received an antidepressant at baseline or during the follow-up period.

Patients with an ICD-10 depression according to the CIDI-PHC who were identified by the GP at baseline or during follow-up as having a mental health problem, were considered GP recognized cases. Those who were also accurately diagnosed by the GP at baseline or during follow-up as having a depression, were considered GP accurately diagnosed cases. Accurately treated cases were taken to be those who were prescribed an antidepressant of adequate dosage for at least 6 months, or were referred to a mental health specialist, including a primary care psychologist. Dosage of antidepressant treatment was considered adequate if patients aged 18–60 were prescribed a minimum of 100 mg imipramine, clomipramine, desipramine or maprotiline, 75 mg nortriptyline, 60 mg mianserine, 150 mg fluvoxamine, or 20 mg paroxetine or fluoxetine [1]. Patients aged 60–65, were considered to have received adequate dosage if they were prescribed a minimum of 50% of the dosage described above. Duration of the treatment was considered adequate if the patient was prescribed antidepressant medication during at least 6 months. GP care for persistent depression was considered adequate if the depressed patient was accurately diagnosed by the GP as being depressed and was either treated with an adequate dosage and duration of an antidepressant or was referred to a mental health specialist, including a primary care psychologist.

2.3. Predictors of process of care

Factors evaluated for their association with adequate care for depression included patient, illness and consultation variables. The patient factors considered were age, gender, years of education, and comorbidity of a chronic disease. The illness factors were: prior episode of depression, depression severity, severity of comorbid anxiety and general level of functioning. The consultation factors were: patient reported main reason for encounter at the index consultation, and number of consultations during the follow-up period.

Prior episode of depression and severity of current depression and anxiety were assessed at baseline with the CIDI-PHC. Severity was measured by the number of current symptoms of the disorder in the corresponding CIDI-PHC section. The general level of functioning was assessed at baseline with the Brief Disability Questionnaire (BDQ) [20]. The BDQ assesses disability and is a self-report questionnaire including five items about daily functioning, daily responsibilities,

motivation for work, personal efficiency and deterioration in social relations, giving a functional disability score (range 0–10; low 0–3; average 4–6; high > 6) and the number of activity limitation days in the prior month. The total number of consultations during the follow-up year was asked from the GP at the 1-year follow-up GP interview, and checked by the medical records.

2.4. Analysis

First, we compared patient, illness and consultation characteristics of the persistent depression cases with that of the non-persistent cases. Second, the process of care for these patients was compared. In particular the extent of non-recognition as a mental health problem and misdiagnosis was compared. Comparison of the kind of treatment received by persistent and non-persistent cases is less relevant, because abstention of treatment may be considered adequate treatment for a patient who is seen to be recovering but not for a patient with a persistent depression.

Third, prediction of the adequacy of treatment for persistent depression was studied by logistic regression analysis. We studied both the univariate and multivariate associations of the predictors with a) recognition as a mental health case in the total group of persistent depression cases, b) accuracy of diagnosis in the recognized group, and c) adequacy of treatment in the accurately diagnosed group. In the multivariate analyses stepwise forward inclusion of significant predictors was performed based on the likelihood ratio test, using $\alpha = 0.05$.

3. Results

Three hundred and forty-eight patients with an ICD-10 depression were identified by screening and subsequent diag-

nostic interview. At the 1-year assessment 70 patients did not participate, leaving 264 patients. Comparisons of the study samples and these 70 dropouts show that the dropouts were slightly older (40.5 years versus 39.4; $P = 0.04$). No other significant differences in patient, illness or process of care variables are found. Seventy-eight patients had an ICD-10 depression both at baseline and 1-year follow-up. These are considered to have a 'persistent' depression. In 86% of these cases the depression was present during the whole follow-up period. In 8% it lasted at least 8 months and in 6% it was less than 8 months. The minimum duration of the depression during the follow-up year was 6 months. The 186 patients with an ICD-10 depression at baseline but no longer at the 1-year follow-up, were considered to have non-persistent depression.

In Table 1 patient, illness and consultation characteristics of the persistent and non-persistent depression cases are compared. The persistent depression cases at baseline have a more severe depression with more depression and anxiety symptoms, marginally more functional disability. These patients have less education and are less likely to have a somatic comorbidity. Moreover, they make more consultations during the year (Table 2).

Table 2 shows the care provided to the patients with persistent depression. GPs did not recognize 20% of the persistent depression cases at baseline or during follow-up as having a mental health problem, 28% were recognized but did not get an accurate diagnosis; 17% were accurately diagnosed, but did not get adequate treatment, and 35% received adequate treatment. This means that almost half of the patients with a persistent depression (48%) were never diagnosed by their GPs during the follow-up year as having a depression. Table 2 also shows that this is as high as the extent of non-recognition and misdiagnosis in the non-persistent cases (46%, $P = 0.71$).

Among the persistent cases that are accurately diagnosed by their GP, approximately one in three are inadequately

Table 1
Patient, illness and consultation characteristics at baseline of patients with a persistent ($N = 78$) and a non-persistent ICD-10 depression ($N = 186$)

Patient characteristics	Persistent depression ($N = 78$)	Non-persistent depression ($N = 186$)	P
Age; mean (S.D.)	40.6 (10.9)	38.9 (11.0)	0.25
Female	67%	73%	0.30
Years of education; mean (S.D.)	11.4 (4.4)	12.6 (3.9)	0.03
Medical comorbidity	17%	29%	0.04
<i>Illness characteristics</i>			
depression symptoms; mean (S.D.)	12.3 (4.0)	9.5 (4.1)	< 0.01
anxiety symptoms; mean (S.D.)	13.3 (5.3)	11.0 (5.0)	< 0.01
Prior episode of depression	67%	62%	0.40
Functional disability (average/high vs. low)	78%	66%	0.06
Activity limitation days (any vs. none)	74%	76%	0.87
<i>Consultation characteristics</i>			
Psychological reason for encounter	41%	44%	0.68
consultations during fu; mean (S.D.)	8.2 (9.0)	5.3 (3.9)	< 0.01
0	3%	6%	
1–4	32%	43%	
≥ 5	65%	52%	0.05 ^a

^a Linear by linear association test.

Table 2
Process of care for persistent and non-persistent depression

Process of care	Persistent depression (N = 78)	Non-persistent depression (N = 186)	P
-Not recognized as mental health problem	20%	20%	0.99
-Recognized, not accurately diagnosed	28%	26%	0.69
-Accurately diagnosed, not adequately treated	17%	32%	0.01
-no prescription of antidepressant or referral	12%	20%	0.09
-inadequate dosage of antidepressant	4%	7%	0.40
-inadequate duration of antidepressant	1%	5%	0.29
-Accurately diagnosed and adequately treated	35%	22%	0.05
-prescription of antidepressant	12%	8%	0.37
-referral to mental health	23%	14%	0.07

treated. In particular the GPs failed to prescribe an antidepressant or to refer the patient to mental health care. To a lesser extent the inadequacy of treatment for these patients consists of the prescription of too low a dosage of an antidepressant or not prescribing the antidepressant long enough.

In the end, 35% of the patients with persistent depression are treated according to guidelines by the GP, either by accurate prescription of an antidepressant by the GP himself (one out of three accurately treated cases) or by referral to mental health services (two out of three) (Table 3).

Table 3 presents the univariate associations of the patient, illness and consultation characteristics with recognition as a mental health problem among all persistent depression cases (column 2), accuracy of diagnosis among those recognized (column 3) and adequacy of treatment among those accurately diagnosed (column 4). Presented are odd ratios (OR) between the characteristics and the process of care variable. OR may be interpreted as an increase in risk compared to a reference group. The Table shows that number of depression symptoms and a psychological reason for encounter are associated with recognition as a mental health problem. In addition, an accurate diagnosis of depression is seen to be less likely in patients with activity limitation days than in patients without. Finally, the chance of receiving adequate treatment

is positively related to more education and a more severe depression.

In multivariate analysis, the associations of recognition with number of depression symptoms and with psychological reason for encounter (shown in Table 3) prove to be overlapping. The primary predictor of recognition is psychological reason for encounter (OR 6.56; 95%CI 1.38–31.31). Number of depression symptoms (OR 1.13; 95%CI 0.95–1.35), nor any other patient, illness or consultation characteristic adds predictive power to that ($P > 0.05$). For accuracy of diagnosis and adequacy of treatment the predictors found in univariate analysis prove to be independent. Only the absence of activity limitation days predicts whether the patient is accurately diagnosed or not (OR 0.23; 95%CI 0.06–0.92). And, number of depression symptoms (OR 1.33; 95%CI 1.04–1.69) and years of education (OR 1.30; 95%CI 1.03–1.65) do not affect each other's predictive power of adequacy of treatment to any noticeable extent, and other factors do not add predictive power to this.

4. Discussion

We investigated what treatment primary care patients with persistent depression receive from their GP. The adequacy of

Table 3
Univariate associations of predictors to recognition as a mental health problem, accuracy of diagnosis, and adequacy of treatment for persistent depression

	Recognition among all persistent cases (N = 78) OR (CI 95%)	Accuracy of diagnosis among recognized cases (N = 62) OR (CI 95%)	Adequacy treatment among accurately diagnosed cases (N = 40) OR (CI 95%)
<i>Patient characteristics</i>			
Age	1.03 (0.98–1.09)	1.02 (0.97–1.07)	1.00 (0.94–1.06)
Female	0.61 (0.18–2.11)	1.29 (0.43–3.87)	1.06 (0.27–4.15)
Years of education	1.08 (0.94–1.24)	1.12 (0.98–1.28)	1.30 (1.03–1.63) *
Medical comorbidity	0.51 (0.13–1.93)	0.64 (0.15–2.69)	2.09 (0.21–20.81)
<i>Illness characteristics</i>			
# Depression symptoms	1.20 (1.02–1.40) ^a	1.09 (0.95–1.26)	1.31 (1.05–1.64) *
# Anxiety symptoms	1.04 (0.94–1.16)	0.96 (0.87–1.06)	1.03 (0.90–1.18)
Prior episode of depression	1.68 (0.52–5.42)	1.12 (0.32–3.92)	1.48 (0.34–6.57)
Functional disability (low vs. average/high)	0.51 (0.10–2.55)	0.85 (0.25–2.92)	1.48 (0.33–6.57)
Activity limitation days (any vs. none)	0.18 (0.02–1.44)	0.23 (0.06–0.92) *	1.07 (0.26–4.34)
<i>Consultation characteristics</i>			
Psychological reason for encounter	6.56 (1.38–31.31) ^a	1.60 (0.56–4.57)	2.33 (0.60–9.03)
# Consultations during follow-up	1.11 (0.95–1.29)	1.01 (0.95–1.07)	1.06 (0.94–1.20)

^a = $P < 0.05$.

this treatment was evaluated against current clinical guidelines for treatment of depression in primary care, which specify either the prescription of an antidepressant of adequate dosage and duration, or referral to the mental health services. The main finding was that non-recognition as a mental health problem and misdiagnosis are as frequent in persistent cases as it is in patients with a milder depression having a more favorable course.

4.1. Recognition and diagnosis

It has been argued that the high number of unrecognized depression cases found in previous primary care studies is a methodological flaw, due to a cross sectional design [2]. Recognition of depression by GPs is argued to be a process instead of a one-visit decision, and that many unrecognized cases probably would have been recognized on subsequent visits. Although we find some evidence for increasing recognition over time in this sample, this increase was not very great. At baseline 27% of the patients were not recognized by their GP as having a mental health problem, whereas after a year follow-up this still was 20%. Non-recognition, therefore, remains substantial, even though they visited their GP 8.2 times on average (standard deviation (S.D.) 9.0; median 6.00) and their depression was continuously present in the great majority of cases.

The characteristics found to correlate with recognition and diagnosis may help to understand why GPs often fail to take these crucial steps towards adequate treatment of depression. Previous studies found recognition and diagnosis of depression to be associated with severity of the disorder [16,14]. The present study confirms that this is true for recognition of the depression as a mental health problem, but not for the subsequent step of accurately diagnosing the mental health problem as a depression. Moreover, our study suggests that the association between recognition and the severity of depression may result from the fact that patients with a more severe depression more often report that their mental health problems were their main reason to visit the GP. Non-recognition of serious and lasting depression, therefore, seems most eminent in patients who visit their doctor for other—probably physical—complaints. These complaints may distract the GP from noticing any mental health problems or the GP may not feel legitimized or too time-pressured to probe into mental health problems, fearing to open Pandora's box.

An accurate diagnosis of depression was less likely in patients with activity limitation days than in patients without. This finding is counterintuitive, because activity limitation days may be seen as an indicator of problem severity. To understand this we examined which diagnoses the GP gave to the 28% of patients who were recognized but not accurately diagnosed. Of these cases 38% were diagnosed as having 'surmenage', i.e. having work related burn-out problems, and this was much more frequent in the patients with activity limitation days than in the patients without (44% versus 0%; $P = 0.26$ Fisher's exact test). When patients have more than

five activity limitation days (one working week) than the chance of being diagnosed as 'surmenage' even increased to 67% while this chance remains 0% for patients with less than five activity limitation days ($P < 0.01$). This suggests that the contextual information of activity limitation days, or maybe even more specific, staying home from work, may distract the GP from thoroughly evaluating the presence of a depression. This mechanism was previously reported by van Weel-Baumgarten et al. [21], and would explain why patients with activity limitation days are more likely to be misdiagnosed than patients without. Misdiagnosis would not be a serious matter, however, when misdiagnosed depression patients would still receive adequate depression treatment. This is not the case, however, since 36% of the inaccurately diagnosed patients did not get any treatment, 18% were prescribed a sedative, 9% antipsychotic and with 23% the problems were merely discussed. Of the misdiagnosed patients, only 14% received an antidepressant of adequate dosage and duration or were referred to a mental health provider. Misdiagnosis of persistent depression, therefore, is not inconsequential for treatment.

4.2. Treatment

The present study shows that GPs fail to prescribe an antidepressant in one out of four persistent depression patients they accurately diagnose, give too low a dosage in again one out of four they prescribe an antidepressant, and finally discontinue the treatment too soon in about one out of 10 patients that receive an adequate dosage of the antidepressant.

Adequate treatment was more likely in patients with a severe depression and with more education. Severity of psychopathology has previously been found to be associated with recognition and adequacy of treatment of the depression [16,14,7]. Level of education has been shown to be different for patients treated in the mental health setting and those treated in primary care. Patients seen in the mental health setting have been reported to be better educated than patients seen in primary care [4]. It may be speculated that this is so because better educated patients have a better knowledge of mental health services than less educated patients, have a better insight into their own mental health problems, or have a more open attitude towards disclosing and discussing their problems. And these differences may also have been instrumental in assuring adequate treatment for the depression in the patients in our study, that is either adequate antidepressant treatment by the GP or a referral to the mental health services.

5. Conclusion

Depressive episodes in primary care frequently are not self-limiting. In the present study for about one third of the patients with a depression at baseline the depression turned out to last at least 1 year. These patients sought help from the GP and

the burden for the GP was considerable. The mean number of visits these patients made during the 1-year follow-up was 8.2. Now, how can this be changed? Our study suggests that at least part of the problem may be the difficulty for GPs to change focus. Patients who consulted their doctor for complaints other than their depression were less likely to have their mental health problem recognized by the GP. And patients who experienced activity limitation days were more likely to have their depression misdiagnosed—specifically as surmenage—by their GP. This suggests that the GPs in these cases were on ‘the wrong track’ and were persistently unable to change their interpretation of the situation. That is, the GPs were unable to use a ‘multitrack approach’ by which we mean that the GP considers both physical and mental health explanations for a patient’s complaint, especially when the etiology of the problem is not obvious or if a patient remains visiting the GP frequently. Although mental health problems may be explained by circumstances, they still have to be evaluated for the presence of a clinical depression. Future training of GPs should address this use of a ‘multitrack approach’.

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